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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/745,708	12/21/2000	Yingjian Chen	60421.304201	9542

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INTELLECTUAL PROPERTY LAW OFFICE  
1901 S. BASCOM AVENUE, SUITE 660  
CAMPBELL, CA 95008

EXAMINER

BEACHAM, CHRISTOPHER R

ART UNIT	PAPER NUMBER
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2653

DATE MAILED: 12/31/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/745,708

Applicant(s)

CHEN ET AL.

Examiner

Christopher R. Beacham

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 17 October 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-8 and 17-19 is/are pending in the application.
- 4a) Of the above claim(s) 9-16 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-8 and 17-19 is/are rejected.
- 7) ☒ Claim(s) 5 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 December 2000 is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4. 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Election/Restrictions***

1. Applicant's election without traverse of Group 1, claims 1-8 and 17-19 in Paper No. 7 is acknowledged.
2. Claims 9-16 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected group, there being no allowable generic or linking claim. Election was made **without** traverse in Paper No. 7.

### ***Claim Objections***

3. Claim 5 is objected to because of the following informalities: Referring to claim 5, "said dielectric capping layer" should be --a dielectric capping layer--. Appropriate correction is required.

### ***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1-8, and 17-19 are rejected under 35 U.S.C. 102(b) as being anticipated by Heim et al (US 5,935,644).
6. Regarding claim 1, Heim et al show a disk drive write head comprising:  
a bottom pole 152:

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a write gap layer 76 on said bottom pole 152;  
a coil 146 on said write gap layer 76;  
a photoresist insulation layer I2 on said coil 146;  
an insulation shell layer I3 on said photoresist insulation layer I2; and  
a top pole 154 on said insulation shell layer I3 (see Figure 13).

7. Regarding claim 3, Heim et al teach <sup>gn</sup>the insulation shell layer is formed from materials chosen from the group consisting of dielectric materials,  $\text{Al}_2\text{O}_3$ ,  $\text{AlN}$ ,  $\text{AlON}$ ,  $\text{SiO}_2$ ,  $\text{Si}_3\text{N}_4$ ,  $\text{Ta}_2\text{O}_5$ , and  $\text{HfO}_2$  (col. 7, lines 5-8)..

8. Regarding claim 4, Heim et al show the disk drive write head includes a read head (see Figure 4).

9. Regarding claim 5, Heim et al show a disk drive write head comprising:

a bottom pole 152;  
a first insulation layer I1 on said bottom pole 152;  
a coil 146 on a dielectric-capping layer I1 (col. 7, lines 5-8);  
a photoresist insulation layer I2 on said coil 146;  
an insulation shell layer I3 on said photoresist insulation layer I2; and  
a top pole 154 on said write gap layer 76 (see Figure 13).

10. Regarding claim 7, Heim et al teach Regarding claim 3, Heim et al teach the insulation shell layer is formed from materials chosen from the group consisting of dielectric materials,  $\text{Al}_2\text{O}_3$ ,  $\text{AlN}$ ,  $\text{AlON}$ ,  $\text{SiO}_2$ ,  $\text{Si}_3\text{N}_4$ ,  $\text{Ta}_2\text{O}_5$ , and  $\text{HfO}_2$  (col. 7, lines 5-8).

11. Regarding claim 8, Heim et al show the disk drive write head includes a read head (see Figure 4).

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12. With regard to claims 2 and 6, the limitation of claims 2 and 6 specifying that “the insulation layer being formed by a process chosen from the group consisting of Physical Vapor Deposition (PVD), sputter deposition, ion beam deposition, Chemical Vapor Deposition (CVD), plasma enhanced Chemical Vapor Deposition (PECVD), Low Pressure Chemical Vapor Deposition (LPCVD) and Atomic Layer Chemical Vapor Deposition (ALCVD)” is a process step in a product claim. A “product by process” claim is directed to the product per se, no matter how it is actually made, *In re Hirao*, 190 USPQ 15 at 17 (footnote 3). See also *In re Brown*, 173 USPQ 685; *In re Luck*, 177 USPQ 523; *In re Fessman*, 180 USPQ 324; *In re Avery*, 186 USPQ 161; *In re Wertheim*, 191 USPQ 90 (209 USPQ 554 does not deal with this issue); *In re Marosi et al*, 218 USPQ 289; and particularly *In re Thorpe*, 227 USPQ 964, all of which make it clear that it is the patentability of the final product per se which must be determined in a “product by process claim, and not the patentability of the process, and that an old or obvious product produced by a new method is not patentable as a product, whether claimed in “product by process” claims or not. Hence, since Applicant has not demonstrated that the resulting product is any different by the process of “forming by a process chosen from the group consisting of Physical Vapor Deposition (PVD), sputter deposition, ion beam deposition, Chemical Vapor Deposition (CVD), plasma enhanced Chemical Vapor Deposition (PECVD), Low Pressure Chemical Vapor Deposition (LPCVD) and Atomic Layer Chemical Vapor Deposition (ALCVD)”, the process step does not distinguish over the prior art as applied, *supra*.

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13. Regarding claim 17, Heim et al show a computer disk drive (see Figure 1) having a write head 141 which includes a coil 146 and a photoresist insulation layer I2 on the coil, comprising:

an insulation shell layer I3 on said photoresist insulation layer I2 (see Figure 13).

14. Regarding claim 18, Heim et al show a top pole 154, which is formed on said insulation shell layer I3 (see Figure 13).

15. Regarding claim 19, Heim et al show a write gap 76 on an insulation shell layer I1; and a top pole 154, on said write gap layer 76 (see Figure 13).

### ***Conclusion***

16. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

- Nishino et al (US 5,586,385) is cited to show a method of manufacturing a thin film magnetic head.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher R. Beacham whose telephone number is (703) 605-4256. The examiner can normally be reached on M-F, 8: 00 am-5: 30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Korzuch can be reached on (703) 305-6137. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9314 for regular communications and (703) 872-9314 for After Final communications.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 306-0377.

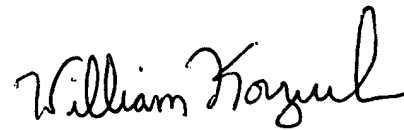


Christopher R. Beacham

Patent Examiner

Art Unit 2653

December 23, 2002



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